Aloidendron barberae: the largest tree aloe

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By Colin C Walker

Aloidendron barberae is the largest of the tree aloes growing up to 20m tall. Its history is briefly summarised and the author's observations of it in New Zealand and South Africa are described and illustrated. Photography as indicated.

Introduction

Aloidendron barberae is a significantly large tree reaching up to 20m tall and it is therefore somewhat surprising that compared with other aloes it does not have a substantially long history. In the middle of the 19th century two intrepid Victorian explorers – Mary Barber and Thomas Baines – were each on plant hunting expeditions in what is now KwaZulu-Natal, South Africa. Each discovered tree aloes and sent plant material, drawings and paintings to the Royal Botanic Gardens, Kew (Fig. 1). There, William Thiselton-Dyer initially decided that Barber and Baines had each discovered two distinct tree aloes which he named *Aloe barberae* and *Aloe bainesii* in their honour (Dyer, 1874a). Later in the same year he changed his mind, having observed the growth of plants at Kew and decided that they were in fact just a single species and chose *A. barberae* as his preferred name (1874b). His preference though, was long overlooked so that this species was generally known as *A. bainesii*. A specimen at Kew was later illustrated in colour using this latter name (Baker, 1885) (Fig. 2). It was only in 1994, 120 years after the initial description, that Thiselton-Dyer's name preference was rediscovered, so that the correct species name is now *barberae* (although the name *A. bainesii* is still often encountered) (Smith et al, 1994). This early history is told and illustrated in greater detail by Carter et al (2011) and Walker et al (2019).

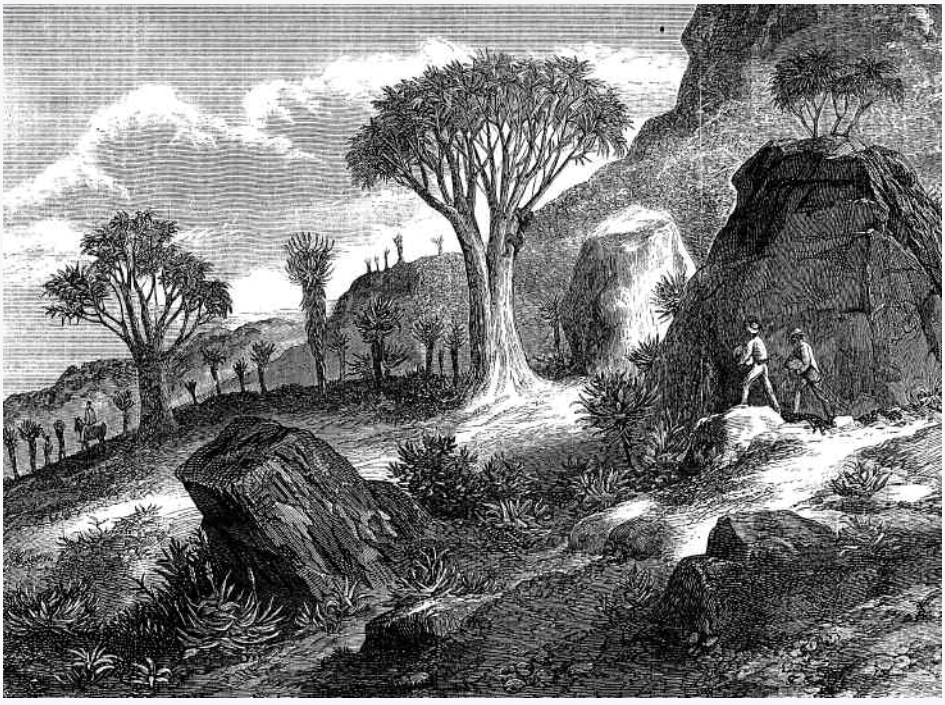

Fig. 1 *Aloe bainesii* growing on rocky hills near Greytown in the Thukela River Basin, KwaZulu-Natal. Woodcut based on a watercolour painting by Thomas Baines, 2 July 1873 (From Dyer, 1874a, Fig. 120)

The most recent name change for this species is the result of molecular studies of aloes which were conducted in the last decade or so. These indicated that a small number of species originally considered to be aloes are only distantly related to true aloes as exemplified by the very familiar *Aloe vera*. Six tree aloes in particular were shown to form a very distinct branch in the aloe family tree, to which the generic name *Aloidendron*, meaning 'tree aloe', was applied (Grace et al, 2013). Five of these tree aloes

come from southern Africa, whilst *Aloidendron eminens* is an outlier in Somalia with a large disjunction in the distribution from the southern species. Our species with the new name of *Aloidendron barberae* is the type of this new genus, characterised by being large trees or shrubs with woody stems that are branched dichotomously (having forked branches) with smooth or fissured bark.

Aloidendron barberae in cultivation

My early significant observations of this species took place in New Zealand in 2005. I was an invited speaker at the New Zealand Cactus and Succulent Society's Auckland convention after which I spoke at a meeting of the Nelson Branch. Whilst staying in the area I was also interviewed by Jude Petheram, a reporter from the *Nelson Mail* and to accompany the newspaper article I was photographed with a specimen of *A. barberae* in central Nelson (Fig. 3). Notice particularly that this photo beautifully illustrates the dichotomous (forked) branching which is so characteristic of this and all other tree aloes. The resulting photo appeared on the front cover of the newspaper (greatly reduced) and in the *Home & Garden* section (occupying nearly half a page) published in March 2005. This was a first for me – indeed this is the one and only time I have been interviewed and photographed for a newspaper article.

Fig. 2 *Aloe bainesii* Dyer (From Baker, 1885)

Fig. 3 The author with *A. barberae* in Nelson, New Zealand in 2005 (Photo: Colin Smith)

Four years later I was in Cape Town where I had further sightings of this tree aloe. A large specimen forms a dominant feature of the Company's Garden in the centre of Cape Town (Fig. 4). Based on my height I estimate that this plant was around 9m tall.

During the same visit to South Africa I also encountered a venerable specimen of *A. barberae* planted on the Mathews' Rockery at Kirstenbosch Botanic Garden (Fig. 5). I estimated this plant to be about 15m tall. Van Jaarsveld & Judd (2015) record

Fig. 4 (top left) *Aloidendron barberae* in the Company's Garden, Cape Town with the author for scale (Photo: Gideon F Smith)

Fig. 5 (bottom left) A magnificent specimen of *A. barberae* growing on the Mathews' Rockery at Kirstenbosch, illustrating the architectural nature of the branching pattern. Despite its size this is only about 90 years old

Fig. 6 (top right) A young specimen of *A. barberae* at Kirstenbosch Botanic Garden, Cape Town

Fig. 7 Close-up of the flowers of *A. barberae* (Photo: Gideon F Smith)

that the Kirstenbosch specimens were planted in 1922, reached 4m tall from seed in just four years and became small trees in only 15 years – a prodigious rate of growth.

A young unbranched plant of *A. barberae* at Kirstenbosch is shown in Fig. 6. Note the large, deeply channelled leaves up to 90cm long with small horny brownish-tipped teeth on the leaf margins.

Aloidendron barberae in habitat

I have never seen *A. barberae* growing wild, so these notes on its main features, distribution and habitat are summarised from our recent monograph of the species (Walker et al, 2019). This species is iconic as the world's largest tree aloe growing up to a height of 20m, so even the venerable specimen at Kirstenbosch (Fig. 5) is not yet fully grown. It forms a trunk up to 3m diameter at the base and is copiously, dichotomously branched. For a large tree the flower spikes are, however, only of modest size up to 60cm tall and like the branches are dichotomously branched. The flowers are rose-pink and green-tipped and the stamens are usually well-exserted to 15mm when the flowers are fully open at anthesis (Fig. 7).

The natural distribution of *A. barberae* ranges from near the coast at East London in the Eastern Cape Province north to Mpumalanga Province in South Africa and also in Eswatini (Swaziland). Previously it had been recorded as occurring in southern Mozambique (Van Jaarsveld & Judd, 2015). However, our investigations (Walker et al, 2019) clearly indicated that there are no authenticated records for this species occurring in that country and further fieldwork is required to confirm this. All Mozambican specimens turned out to belong to its closest relative *Aloidendron tongaense*. This latter species differs in being a smaller tree growing to only 4–8m tall with somewhat different yellowish-orange flowers.

Aloidendron barberae grows in forests and hillsides above major rivers in a variety of fertile soils. The flowers are clearly bird-pollinated but there are few observations of named birds visiting the flowers.

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